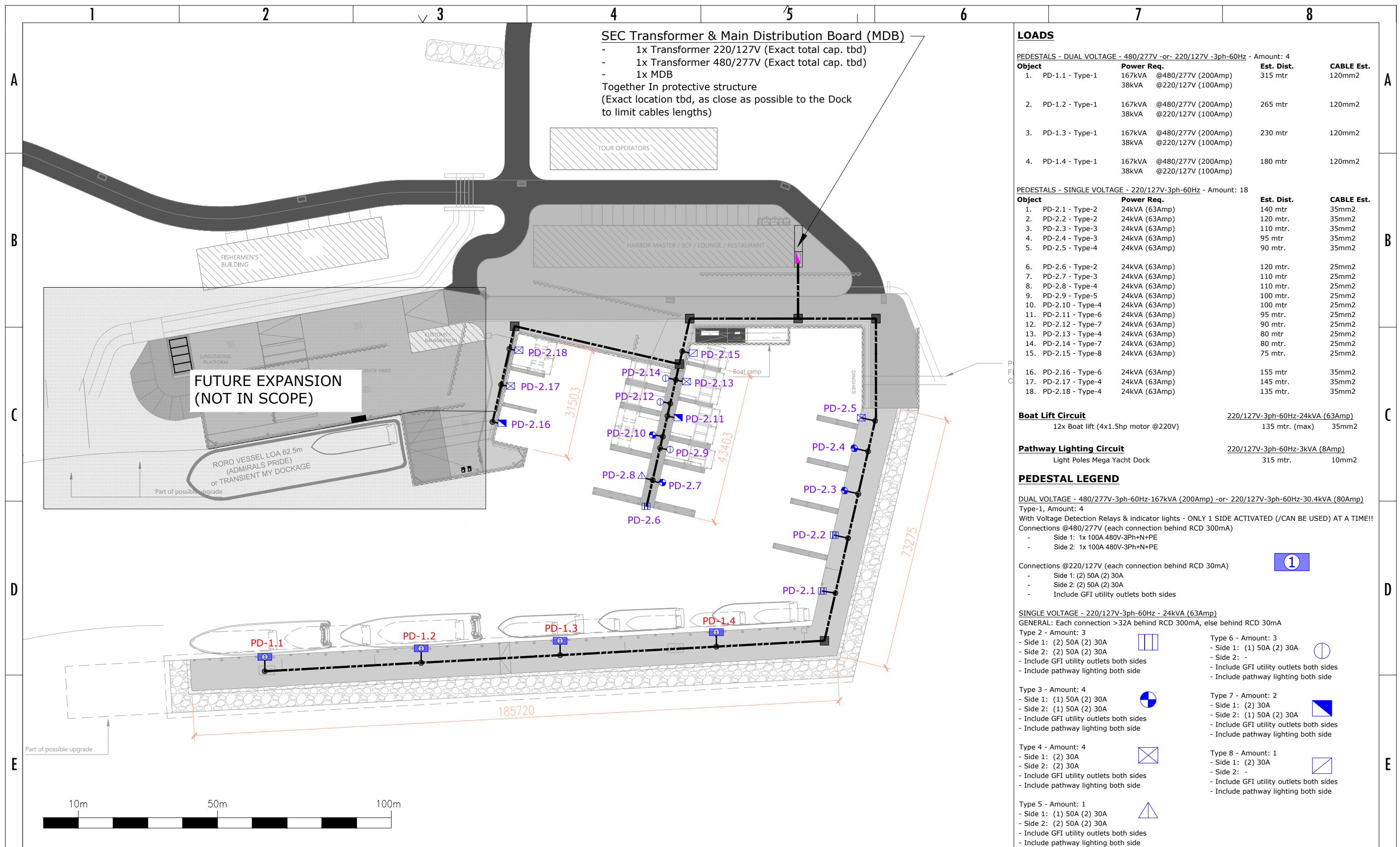




ALTERNATIVE DESIGN OPTION

Points of Departure:

- | | | |
|---|--|--|
| <ul style="list-style-type: none"> - Utility Company (SEC) supplies 1x transformer for 220V/127V power - Power requirement currently estimated at $\pm 1000A$-3ph (380kVA) - Transformer shall feed all single voltage pedestals, boat lifts and Mega Yacht dock lighting - Utility Company (SEC) supplies 1x transformer for 480/277V power - Power requirement currently estimated at $\pm 500A$-3ph (416kVA) - Transformer shall feed the Mega Yacht pedestals. - Network shall be executed as a TN-C-S system - The Estimated/Expected Demand Power is set @ 60% of the Connected Load. | <ul style="list-style-type: none"> - The Loads shall be fed from 1 Main Distribution Board (MDB): - To be located near dock in protective structure to limit cable lengths to pedestals - Compartment 1: incoming 480/277V feed from SEC and protection devices for 480/277V-loads (dual voltage pedestals) - Compartment 2: change-over switches for dual voltage pedestals and outgoing feeders to these pedestals - Compartment 3: incoming 220/127V feed from SEC and protection devices for 220/127V-loads (single voltage pedestals, boats lifts & dock lighting) | <ul style="list-style-type: none"> - The 4 "Mega Yacht" pedestals shall be dual voltage: - Only 1 power source can be used at a time - Max. available capacity @480/277V is 200A-3ph - Max. available capacity @220/127V is 100A-3ph - The remaining pedestals shall be single voltage: - Pedestals per ATM design except for the power feed & available power capacity - Max. available capacity per pedestal is 63A-3ph @220/127V |
|---|--|--|

DRAFT

Project: Black Rocks Harbour

Principal: "Saba Harbour Project"

Drawing: SP-E-1000 (option)	Project #: 2021 005
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Discipline: **Electrical**

Subject: Site Plan - Power Distribution Black Rocks Harbour

LOADS

PEDESTALS - DUAL VOLTAGE - 480/277V -or- 220/127V -3ph-60Hz - Amount: 4

Object	Power Req.	Est. Dist.	CABLE Est.
1. PD-1.1 - Type-1	167kVA @480/277V (200Amp) 38kVA @220/127V (100Amp)	315 mtr	120mm2
2. PD-1.2 - Type-1	167kVA @480/277V (200Amp) 38kVA @220/127V (100Amp)	265 mtr	120mm2
3. PD-1.3 - Type-1	167kVA @480/277V (200Amp) 38kVA @220/127V (100Amp)	230 mtr	120mm2
4. PD-1.4 - Type-1	167kVA @480/277V (200Amp) 38kVA @220/127V (100Amp)	180 mtr	120mm2

PEDESTALS - SINGLE VOLTAGE - 220/127V-3ph-60Hz - Amount: 18

Object	Power Req.	Est. Dist.	CABLE Est.
1. PD-2.1 - Type-2	24kVA (63Amp)	140 mtr	35mm2
2. PD-2.2 - Type-2	24kVA (63Amp)	120 mtr.	35mm2
3. PD-2.3 - Type-3	24kVA (63Amp)	110 mtr.	35mm2
4. PD-2.4 - Type-3	24kVA (63Amp)	95 mtr	35mm2
5. PD-2.5 - Type-4	24kVA (63Amp)	90 mtr.	35mm2
6. PD-2.6 - Type-2	24kVA (63Amp)	120 mtr.	25mm2
7. PD-2.7 - Type-3	24kVA (63Amp)	110 mtr	25mm2
8. PD-2.8 - Type-4	24kVA (63Amp)	110 mtr.	25mm2
9. PD-2.9 - Type-5	24kVA (63Amp)	100 mtr.	25mm2
10. PD-2.10 - Type-4	24kVA (63Amp)	100 mtr	25mm2
11. PD-2.11 - Type-6	24kVA (63Amp)	95 mtr.	25mm2
12. PD-2.12 - Type-7	24kVA (63Amp)	90 mtr.	25mm2
13. PD-2.13 - Type-4	24kVA (63Amp)	80 mtr	25mm2
14. PD-2.14 - Type-7	24kVA (63Amp)	80 mtr.	25mm2
15. PD-2.15 - Type-8	24kVA (63Amp)	75 mtr.	25mm2
16. PD-2.16 - Type-6	24kVA (63Amp)	155 mtr	35mm2
17. PD-2.17 - Type-4	24kVA (63Amp)	145 mtr.	35mm2
18. PD-2.18 - Type-4	24kVA (63Amp)	135 mtr.	35mm2

Boat Lift Circuit

12x Boat lift (4x1.5hp motor @220V)

220/127V-3ph-60Hz-24kVA (63Amp)
135 mtr. (max) 35mm2

Pathway Lighting Circuit

Light Poles Mega Yacht Dock

220/127V-3ph-60Hz-3kVA (8Amp)
315 mtr. 10mm2

PEDESTAL LEGEND

DUAL VOLTAGE - 480/277V-3ph-60Hz-167kVA (200Amp) -or- 220/127V-3ph-60Hz-30.4kVA (80Amp)
Type-1, Amount: 4

With Voltage Detection Relays & indicator lights - ONLY 1 SIDE ACTIVATED (/CAN BE USED) AT A TIME!!

Connections @480/277V (each connection behind RCD 300mA)

- Side 1: 1x 100A 480V-3Ph+N+PE
- Side 2: 1x 100A 480V-3Ph+N+PE

Connections @220/127V (each connection behind RCD 30mA)

- Side 1: (2) 50A (2) 30A
- Side 2: (2) 50A (2) 30A
- Include GFI utility outlets both sides

SINGLE VOLTAGE - 220/127V-3ph-60Hz - 24kVA (63Amp)

GENERAL: Each connection >32A behind RCD 300mA, else behind RCD 30mA

Type 2 - Amount: 3

- Side 1: (2) 50A (2) 30A
- Side 2: (2) 50A (2) 30A
- Include GFI utility outlets both sides
- Include pathway lighting both side

Type 6 - Amount: 3

- Side 1: (1) 50A (2) 30A
- Side 2: -
- Include GFI utility outlets both sides
- Include pathway lighting both side

Type 3 - Amount: 4

- Side 1: (1) 50A (2) 30A
- Side 2: (1) 50A (2) 30A
- Include GFI utility outlets both sides
- Include pathway lighting both side

Type 7 - Amount: 2

- Side 1: (2) 30A
- Side 2: (1) 50A (2) 30A
- Include GFI utility outlets both sides
- Include pathway lighting both side

Type 4 - Amount: 4

- Side 1: (2) 30A
- Side 2: (2) 30A
- Include GFI utility outlets both sides
- Include pathway lighting both side

Type 8 - Amount: 1

- Side 1: (2) 30A
 - Side 2: -
 - Include GFI utility outlets both sides
 - Include pathway lighting both side
- 

Type 5 - Amount: 1

- Side 1: (1) 50A (2) 30A
- Side 2: (2) 50A (2) 30A
- Include GFI utility outlets both sides
- Include pathway lighting both side

Location: Saba, Dutch Caribbean

■ For approval □ Final □ Construction □ As-built

Caribbean Engineering & Consultancy Company

